IN THE CLAIMS:

Claim 1 (currently amended) A computing device comprising a plurality of each of the following DNA bases: A, T, C, G, wherein the computing device ~~which~~ processes or stores information in polynucleotides comprising the DNA bases according to ~~with~~ a DNA based number system, wherein ~~the system has four bases comprising A, T, C and G and wherein~~ each base is assigned a value comprising A=0, T=1, C=2, G=3 and wherein both integers and real numbers are represented by the polynucleotides ~~a plurality of DNA bases~~, the value of a base in the polynucleotides ~~plurality of bases~~ being positional.

Claim 2 (currently amended) A computing device as claimed in claim 1, wherein each of the real numbers is represented in 32-bases, including a first polynucleotide ~~plurality of bases~~ for representing a magnitude of the real number and a second polynucleotide ~~plurality of bases~~ for representing an exponent.

Claim 3 (currently amended) A method for processing or storing information comprising (i) providing a plurality of each of DNA bases: A, T, C, G, (ii) representing numbers in the form of polynucleotides comprising the DNA bases (A, T, C, G) comprising:

a) assigning values to each DNA base wherein A=0, T=1, C=2, G=3;

b) assigning complementary values to each DNA base with a complement of A = G, a complement of T=C and vice-versa; and

(ii) processing or storing information with the numbers in the polynucleotides ~~form of DNA bases~~.

Claim 4 (previously presented) A method as claimed in claim 3, wherein each of the numbers is selected from the group consisting of a positive integer, a negative integer, a positive real number and a negative real number.

Claim 5 (cancelled)

Claim 6 (previously presented) A method as claimed in claim 3, wherein each number is represented by a plurality of bases and the value of each base in the plurality of bases is positional.

Claim 7 (currently amended) A method as claimed in claim 4, wherein a positive integer is represented in a unit ~~cell~~ comprising the DNA by:

(a) dividing the positive integer by four and extracting a remainder;

(b) repeating step (a) till a quotient of 0 is reached;

(c) extracting a first remainder digit as the least significant digit (LSD);

(d) extracting a last digit as the main significant digit (MSD);

(e) writing the digits extracted from left to right from MSD to LSD; and

(f) completing the unit ~~cell~~ by adding bases as padding, if required, and adding a sign base at the left of the unit ~~cell~~.

Claim 8 (currently amended) A method as claimed in claim 4, wherein the numbers comprise negative integers with each of the negative integers represented in a unit ~~cell~~ by;

(a) first changing the negative integer into a positive integer;

(b) dividing the positive integer by four and extracting a remainder;

(c) repeating step (c) till a quotient of 0 is reached;

(d) extracting a first remainder digit as the least significant digit (LSD);

(e) extracting a last digit as the main significant digit (MSD);

(f) writing the digits extracted from left to right from MSD to LSD; and

(g) completing the unit ~~cell~~ by adding bases as padding, if required, and adding a sign base to the left of the unit ~~cell~~;

(h) producing a complement by changing the A's to G's and T's to C's and vice versa; and

(i) adding a base T (=1) to the complement;

wherein the left most base of the completed unit ~~cell~~ represents a sign of the integer.

Claim 9 (currently amended) A method as claimed in claim 4, wherein the numbers comprise positive real numbers with each of the positive real number represented in a unit ~~cell~~:

(a) first converting the positive real number into a positive integer by shifting a decimal point to the right;

(b) dividing the positive integer by four and extracting a remainder;

(c) repeating step (b) till a quotient of 0 is reached;

(d) extracting a first remainder digit as the least significant digit (LSD);

(e) extracting a last digit as the main significant digit (MSD);

(f) writing the digits extracted from left to right from MSD to LSD;

(g) completing the cell by adding bases as padding, if required, and adding a sign base to the left of the unit ~~cell~~; and

(h) recording the number of points shifted and represented as an exponent, wherein the leftmost base represents a sign base of the number, and the next 23-bases represent a magnitude and a remaining 8-bases represent an exponent.

Claim 10 (previously presented) A method as claimed in claim 4, wherein the numbers comprise positive real numbers and negative real numbers, wherein a sign base of each of the positive real numbers is "T" and a sign base of each of the negative real numbers is "C".

Claim 11 (currently amended) A method as claimed in claim 4, wherein the numbers comprise negative real numbers with each of the negative real represented in a unit ~~cell~~ by:

(a) taking the negative real number as a positive real number;

(b) converting the positive real number into a positive integer by shifting a decimal point to the right;

(c) dividing the positive integer by four and extracting a remainder;

(d) repeating step (b) till a quotient of 0 is reached;

(e) extracting a first remainder digit as the least significant digit (LSD);

(f) extracting a last extracted digit as the main significant digit (MSD);

(g) writing the digits extracted from left to right from MSD to LSD; and

(h) completing the cell by adding bases as padding, if required, and adding a sign base to the left of the unit ~~cell~~; and

(i) recording the number of decimal points shifted as an exponent;

wherein the leftmost base represents a sign base of the number, and a next 23-bases represent a magnitude and a remander of 8-bases represents an exponent.

Claim 12 (currently amended) A software comprising computer executable instructions based on the DNA based number system of claim 1 wherein:

a) the integers are represented as 8 ~~bases/cell~~ bases/unit and a complement representation represents negative integers and wherein positive integers do not have complements and a leftmost base in the ~~cell~~ unit represents a sign of the integer;

b) and wherein each of the real numbers is represented as 32 bases/unit ~~bases/cell~~, wherein a leftmost base represents a sign of the real number, a next 23 bases represents a magnitude of the real number and a remaining -8 bases represents an exponent representing a number of bases a decimal was shifted right to convert the real number to an integer.

Claim 13 (previously presented) A computing device as claimed in claim 1, comprising software which translates the plurality of bases into the integers and real numbers.

Claim 14 (currently amended) A computing device as claimed in claim 13, wherein:

a) the integers are represented as 8 ~~bases/cell~~ bases/unit and a complement representation represents negative integers and wherein positive integers do not have complements and a leftmost base in the ~~cell~~ unit represents a sign of the integer;

b) and wherein each of the real numbers is represented as 32 bases/unit ~~bases/cell~~, wherein a leftmost base represents a sign of the real number, a next 23 bases represents a magnitude of the real number and a remaining 8 bases represents an exponent representing a number of bases a decimal was shifted right to convert the real number to an integer.

Claim 15 (currently amended) A method for processing or storing information comprising (i) providing a plurality of each of the following DNA bases: A, T, C, G, (ii) representing numbers in the form of polynucleotides comprising the DNA bases (A, T, C, G) by

assigning values to each DNA base; wherein a positive integer is represented in a unit ~~cell~~ comprising the DNA bases by:

a) dividing the positive integer by four and extracting a remainder;

b) repeating step (a) till a quotient of 0 is reached;

c) extracting a first remainder digit as the least significant digit (LSD);

d) extracting a last digit as the main significant digit (MSD);

e) writing the digits extracted from left to right from MSD to LSD; and

f) completing the unit ~~cell~~ by adding bases as padding, if required, and adding a sign base at the left of the unit ~~cell~~.

Claim 16 (currently amended) A method as claimed in claim 15, wherein the numbers also comprise negative integers with each of the negative integers represented in a unit ~~cell~~ by;

(g) first changing the negative integer into a positive integer;

(h) dividing the positive integer by four and extracting a remainder;

(i) repeating step (c) till a quotient of 0 is reached;

(j) extracting a first remainder digit as the least significant digit (LSD);

(k) extracting a last digit as the main significant digit (MSD);

(l) writing the digits extracted from left to right from MSD to LSD; and

(m) completing the unit ~~cell~~ by adding bases as padding, if required, and adding a sign base to the left of the unit ~~cell~~;

(n) producing a complement by changing the A's to G's and T's to C's and vice versa; and

(o) adding a base T (=1) to the complement;

wherein the left most base of the completed unit ~~cell~~ represents a sign of the integer.